Space Weather Forecast

Issued on Tuesday, 10 May 2022 at 13:19 Local

This forecast provides a four day assessment of space weather events. The probabilities stated below are for reaching or exceeding the given levels. For more information about space weather impacts please see the Met Office Space Weather Scales https://www.metoffice.gov.uk/weather/learn-about/space-weather/uk-scales

Space Weather Forecast Headline: Chance of Minor Geomagnetic Storm 10 and 11 May.

Slight chance of Moderate-class X-ray flares and radio blackouts throughout.

Analysis of Space Weather Activity over past 24 hours

Solar Activity: Solar activity is Low, with isolated Common-class flares. The most active region has been the prominent region in the south-centre of the Sun. Another region further east is also giving some minor activity. No Earth-directed CMEs have been observed in the last 24 hours.

Solar Wind / Geomagnetic Activity: The solar wind has been slow throughout. Total magnetic field strength of the solar wind has been weak, with the important north-south component also varying weakly. Resulting geomagnetic activity was Quiet.

Energetic Particles / Solar Radiation: No solar radiation storms have been observed.

Four-Day Space Weather Forecast Summary

Solar Activity: Solar activity is likely to be mainly Low, with a slight chance of Moderate activity. This is mainly due to an evolving prominent region close to south-centre disc.

Solar Wind / Geomagnetic Activity: A CME which left the Sun on 06 May is due to impact the Earth in the next 18 to 24 hours. A slightly elevated fast wind may also connect with the Earth at the same time. There is a chance (50%) of Active or G1 Minor Storm intervals on 10 and 11 May due to these potential features. A return to Quiet or Unsettled conditions from 12 May will follow.

Energetic Particles / Solar Radiation: No solar radiation storms are expected.

Issued by Met Office Space Weather Advisor, Tel: +44 (0) 330 135 4254 Email: moswoc@metoffice.gov.uk

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Geomagnetic Storms:

Geo-Magnetic Storm Probability (Exceedance)	Level	Past 24 Hours (Yes/No)	Day 1 (00-24 UTC) (%)	Day 2 (00-24 UTC) (%)	Day 3 (00-24 UTC) (%)	Day 4 (00-24 UTC) (%)
Minor or Moderate	G1 to G2	No	40	50	10	1
Strong	G3	No	1	5	1	1
Severe	G4	No	1	1	1	1
Extreme	G5	No	1	1	1	1

Radio Blackouts - X Ray Flares:

X Ray Flares Probability	Level	Past 24 Hours (Yes/No)	Day 1 (00-24 UTC) (%)	Day 2 (00-24 UTC) (%)	Day 3 (00-24 UTC) (%)	Day 4 (00-24 UTC) (%)
Active	R1-R2 M Class	No	15	15	20	20
Very Active	R3 to R5 X	No	1	1	3	5

Solar Radiation Storms - (High Energy Protons):

Radiation Storms Probability (Exceedance)	Level (cm^{-2} sr^{-1} s^{-1})	Past 24 Hours (Yes/No)	Day 1 (00-24 UTC) (%)	Day 2 (00-24 UTC) (%)	Day 3 (00-24 UTC) (%)	Day 4 (00-24 UTC) (%)
Active	≥ S1	No	1	1	1	1
Very Active	≥ S3 *	No	1	1	1	1

* S3 ≥ 10 MeV ≥ 1000 pfu and / or ≥ 50 MeV ≥ 10 pfu. (pfu = $cm^{-2}sr^{-1}s^{-1}$)

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